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ADITYA

Institute of Technology and Management

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Vision of the Institute:

To evolve into a premier engineering institute in the country by continuously enhancing the range of our competencies, expanding the gamut of our activities and extending the frontiers of our operations.

Mission of the Institute:

Synergizing knowledge, technology and human resource, we impart the best quality education in Technology and Management. In the process, we make education more objective so that the efficiency for employability increases on a continued basis.

Vision of the Department:

Create high-quality engineering professionals through research, innovation and teamwork for a lasting technology development in the area of Electronics and Communication Engineering.

Mission of the Department:

1. To offer a well-balanced Program of instruction, lab practices, research & development activities, product incubation.
2. Develop accomplished technical personnel with a strong background on fundamental and advanced concepts, have excellent professional conduct.
3. Enhance overall personality development which includes innovative and group work exercises, entrepreneur skills, communication skills and employability.
4. Ensuring effective teaching–learning process to provide in-depth knowledge of principles and its applications pertaining to Electronics & Communication Engineering and interdisciplinary areas.
5. Providing industry and department interactions through consultancy and sponsored research.

Message from Dr. K. Someswara Rao, CHAIRMAN

At AITAM, we are committed to excellence in everything we do. We strive to mould the students in balancing intellectual and practical skills to become leaders in all the fields of Technical know-how and Management. We have created the finest facilities for the students to make the most of their scholastic pursuits. We are closely aligned with the corporate world which ensures exchange of ideas and experiences that keep our curricula focussed on current developments and challenges in the field of engineering. We are firmly committed to research and consulting activities to contribute to the development of the discipline of engineering. Our vitality lies in our spirit of innovation. Our strength lies in our pragmatic approach. Our success lies in our will to do.

Message Sri L.L. Naidu, SECRETARY

Aditya Institute of Technology and Management is founded to meet the increasing demand for competent engineering graduates. Within a short span of its inception, AITAM has grown to be a premier engineering college of its kind and has won laurels and kudos from the industry. The faculty and staff in AITAM are dedicated to providing first-class education that instils strong and potent basic knowledge for sound practice in science and engineering for the well-being of the society. The Institute offers curricula that nurtures creative thinking and prepares students for productive and rewarding careers. The Institute offers programmes that deepen learning experiences of our students and prepare them for successful careers as engineers.

Message from Prof. V.V. Nageswara Rao, DIRECTOR

Engineering education at AITAM is indeed a rewarding intellectual experience. The Institute prepares the engineering professionals of tomorrow imbued with insight, imagination and ingenuity to flourish as successful engineers. Our programs are attuned to the needs of the changing times. The classrooms are ultra-modern; the library and labs are cutting-edge; and all the members of the faculty are workaholic professionals and masters in their fields. Not surprisingly, our students are recruited by such renowned organizations as HCL, Satyam, WIPRO, INFOSYS, TCS, Visual Soft, Innova-Solutions and InfoTech. The exceptional dedication of our students, faculty and staff, and our collaborations with Industry and other institutions ensure that the Institute is well-poised to create a unique niche in the horizons of engineering education.

Message from Dr. K.B. Madhu Sahu, PRINCIPAL

It is only through knowledge that man attains immortality. Knowledge has to expand or grow to remain as knowledge. The road to excellence is toughest, roughest and steepest in the Universe. The world requires and honors only excellence. Available information has to be directed by wisdom and intelligence to create new knowledge. Promotion of creativity is the new role of education. It is only through creative thinking that the present and future problems can be addressed to find dynamic solutions. Technology should be used to help remove poverty from the world. In fact forty per cent of the world's poor are in India. Confidence leads to capacity. It is faith in oneself that produces miracles. Education at AITAM helps build character, strengthen the mind, expand the intellect and establish a culture of looking at problems

in a new perspective. The student is put through rigorous training so that he can stand on his own feet after leaving the portals of the Institute.

Message from Dr. Sateesh Kumar, H.O.D of ECE

Aditya Institute of technology and management (AITAM) is one among the reputed engineering colleges imparting finest quality education. The department of Electronics and Communication Engineering was established in the year 2001. Our aim is to produce graduates capable of effectively using professional skills with values for betterment of society and to meet the varying demands of industry and research environment. The department is well equipped with significant infrastructural design and state of art laboratories for both academics and research purpose.

Our department has a fine blend of a team of qualified and experienced faculty. The faculty members have excellent academic credentials. The notable asset of our department is the available diversity of expertise and highly motivated, well experienced faculty members ensure quality education from our department. The faculty and students are associated with memberships of professional bodies such as Institution of Electronics and Telecommunications Engineering (India), Institution of Engineers (India), Indian Society for Technical Education.

Our students earned name and fame all over the globe and rendering best of their services to topmost companies. The department of ECE endeavors to provide to our students best professional opportunities and look forward their bright future. We as a team resolve to take the department to heights of success and prepare our students for future challenges. We are striving hard continuously to improve upon the quality of education. Our goal is to ensure that the education we provide opens the doorway to greater opportunities.

B.TECH PROJECT ABSTRACTS

Sl. No.	Roll No.	Name of the Student	Project Title
1	13A51A0430	C PRIYANKA	IMAGE DENOISING USING MULTILEVEL WAVELET TRANSFORMS.
	13A51A0426	BUDIREDDY PRIYANKA	
	14A55A0402	BALLEDA KALYANCHAKRADHAR	
	13A51A0455	HANUMANTHU SHANMUKHA RAO	
	14A55A0408	GUDLA LEELA BHARATH	

ABSTRACT

Image De-noising is an important part of diverse image pre-processing and computer vision problems. Spatial domain filtering is the traditional way to remove the noise from the digital images by using spatial filters. Preservation of edge content and pixel characteristics of the image is important. One of the perspective approaches in this area is using discrete wavelet transform (DWT). In this project, comparison of various Wavelets at one level and two level decompositions has been done. As number of levels increased, subjective quality of the image get enhanced which leads to increase in Peak Signal to Noise Ratio (PSNR) value. The comparison of different wavelets like har, db2 and sym4 has been carried out to de-noise the image. The proposed work will be implemented using MATLAB R2015a

Sl. No.	Roll No.	Name of the Student	Project Title
2	13A51A0413	BARATAM JESSE EVANS	. CT AND MRI IMAGE FUSION BASED ON ITERATIVE NEURO FUZZY APPROACH (INFA) WITH QUANTITATIVE ANALYSIS
	13A51A0405	ATLA BHAVANI	
	13A51A0417	BHYRI GOWTHAMI	
	14A55A0401	BALLA NARESH	
	13A51A0413	BARATAM JESSE EVANS	

ABSTRACT

Now-a-days in medical stream, there is a need for new method to view that issues and other matter in the body. CT scan is suitable for bone injuries, lung and chest imaging, cancer detection and widely used on emergency room patients. where as MRI scan is best suited for soft tissue evaluation, e.g., ligament and tendon injury, spinal cord injury, brain tumors, etc. But if we integrated both of CT and MRI scans into one image, it would even clearer than before. So in this project a method based on image fusion is to be developed for fusing CT and MRI images. CT images provide cross sectional view, whereas, MRI images provide lateral view. In literature these two images are fused using few techniques such as Iterative Neuro-Fuzzy Approach (INFA),Neuro Fuzzy Approach and Averaging method. All these methods will be compared with the proposed algorithm. The validation of the algorithms will be done by using quantitative measures such as Entropy (EN) and Structural Similarity Index (SSIM).

Sl. No.	Roll No.	Name of the Student	Project Title
3	13A51A0421	BAGGU VENUGOPALA RAO	IMPLEMENTATION OF WINDOW FUNCTIONS AND FIR FILTERS BY USING SIMPLIFIED FRACTIONAL FOURIER TRANSFORM OF TYPE-2.
	13A51A0460	GODDU NEELIMA	
	13A51A0442	JEERU GAYATRI	
	13A51A0414	BONDI PRAVEEN KUMAR	

ABSTRACT

In signal processing, a window function is a mathematical function that is zero valued outside of some choose interval. A more general definition of window functions does not require them to be identically zero outside an interval, as long as the product of the window multiplied by its argument is square integral able and more specifically ,that the function goes significantly rapidly towards zero .Applications of window functions include spectral analysis and the design of finite impulse response filters. Windows functions are used to analyze the spectral characteristics of the signals to minimize the gibbs phenomenon. The effectiveness of spectral characteristics of window function is judged to three important parameters like side lobe apt equation(SLA),bandwidth(BW) and side lobe fall off ratio. In literature this has been done through implementation using Fourier transform and fractional Fourier transform. Here an attempt is made to analyze window functions through recently introduced simplified fractional Fourier transform of type-2 and also compare the consequences based on proposed method with existing methods. Furthermore design of FIR low pass filter with different cut off frequencies will be analyzed using proposed window function as a key parameter

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Sl. No.	Roll No.	Name of the Student	Project Title
4	13A51A0424	BOYINA SUMA	ROBUST AUDIO WATERMARKING USING DCT.
	13A51A0422	BODDEPALLI PRADEEP	
	13A51A0458	IPPILI PRAJNA	
	13A51A0444	EJJARATI PRIYANKA	

ABSTRACT

Now-a-days the demand for security of the multimedia data is increased and for this purpose the concept of watermarking was introduced. It is the concept of providing security for images, video and audio signals but the security in image watermarking is less so that copying of photocopies from the original sites was made very easy?

Aiming at the problem of less security of image watermarking the concept proposed called digital audio watermarking. Digital audio watermarking using binary image as watermarking and the algorithm called DCT increases the security and information capacity.

Here different phases like embedding the image into original audio and extraction of original embedded image from the audio will be observed. This method shows that the security and the imperceptibility of watermarking are good and protects against attacks like re-sampling, filtering,noise addition and so on.

Sl. No.	Roll No.	Name of the Student	Project Title
5	13A51A0428	BUSI YOGITHA	Implementation of Software Defined Radio .
	13A51A0419	BINGI MOHAN RAO	
	13A51A0453	GURUVU YAMINI	
	13A51A0446	GANAPATHI ARUN SIDDHARTH	

ABSTRACT

Software defined radio is a radio which can tune to any frequency band transmit and receive different modulations and different physical parameters across a large frequency spectrum by using a programmable hardware and powerful software. An SDR performs significant amounts of signal processing in general purpose computers, or a reconfigurable piece of digital electronics or the combination of both. The main objective of our work is to implement an SDR using different modulation techniques and to study the possible applications of SDR in different fields of science and technology.

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Sl. No.	Roll No.	Name of the Student	Project Title
6	13A51A0439	DIKKALA AMANI	PERFORMANCE ANALYSIS OF AGING–AWARE EFFICIENT COLUMN BYPASS MULTIPLIER USING ADAPTIVE HOLD LOGIC
	13A51A0408	BALAGA KAMAL KUMAR	
	13A51A0454	HANUMANTHU SATYA SAI SRINIVAS	
	14A55A0406	GADELA ISWARYA	

ABSTRACT

High speed and low consumption is one of the most important design objectives in integrated circuits. The overall performance of these systems depends on the throughput of the multiplier. Meanwhile, the negative bias temperature instability effect occurs when a pMOS transistor is under negative bias (Vgs = −Vdd), increasing the threshold voltage of the pMOS transistor, and reducing multiplier speed. A similar phenomenon, positive bias temperature instability, occurs when an nMOS transistor is under positive bias. Both effects degrade transistor speed, and in the long term, the system may fail due to timing violations. Therefore, it is important to design reliable high-performance multipliers. An aging-aware architecture is designed with a novel adaptive hold logic (AHL) circuit where the multiplier is able to provide higher throughput through the variable latency and can adjust the AHL circuit to mitigate performance degradation that is due to the aging effect. In Aging aware architecture the Razor flip-flops detect the timing violations and re-execute the operations using two cycles. A 4x4 column bypass multiplier is used in this architecture. The design is implemented and verified using Xilinx ISE Simulator

Sl. No.	Roll No.	Name of the Student	Project Title
7	13A51A0402	ALLADA MANOJ KUMAR	. ZIGBEE BASED AUTOMATIC STREET LIGHT CONTROL SYSTEM
	13A51A0459	ITRAJU BHARGAVI	
	13A51A0451	GURANA RASHMITHA	
	13A51A0457	INJARAPU RAVI TEJA	

ABSTRACT

ZIGBEE based Automatic Street light control system is smart and provides a safe night

time environment for all road users including pedestrians. The street light automation system can reduce energy consumption, maintenance costs and also helps to reduce crime activities up to certain limit. The automatic street light system is mainly decided on the combination of sensors and ZIGBEE technology. Like Wi-Fi, Zigbee uses direct sequence spread spectrum in the 2.4GHz band, with offset-quadrature phase-shift keying modulation. Channel width is 2MHz with 5MHz channel spacing. We use Passive Infrared (PIR) sensor and Light Dependent Resistor (LDR) sensor for detection purpose. PIR sensor is for detecting motion, LDR sensor is for detecting light (dark/light). It also discusses an intelligent system that makes automation decisions for ON/OFF considering movement of vehicle or pedestrian and also surrounding light intensity. An automatic street light system is designed with the help of ZIGBEE module which can help in detection of faulty lights and control it.

Sl. No.	Roll No.	Name of the Student	Project Title
8	13A51A0403	ANDHAVARAPU SANGHAVI	IDENTIFICATION OF ARTIFACT RELATED INDEPENDENT COMPONENTS FORARTIFACT REMOVAL IN EEG RECORDINGS .
	13A51A0434	CHOWDARI LAKSHMI	
	13A51A0440	DOLA TEJESH	
	13A51A0429	BUTHADA KARUNAKAR	

ABSTRACT

Electroencephalography (EEG) is the recording of electrical activity produced by the firing of neurons within the brain. These activities can be decoded by signal processing techniques. However, EEG recordings are always contaminated with artifacts which hinder the decoding process. Therefore, identifying the artifacts is an important step. Researchers often clean EEG recordings with assistance from Independent Component Analysis (ICA), since it can decompose EEG recordings into a number of artifact-related and event related potential (ERP)-related independent components (ICs). However, existing ICA-based artifact identification strategies mostly restrict themselves to a subset of artifacts, e.g. identifying eye blink and muscle movement artifacts, have not been shown to reliably identify artifacts caused by non-biological origins like high impedance electrodes

Sl. No.	Roll No.	Name of the Student	Project Title
9	13A51A0410	BALARAMAMAHANTHY MANASA	HYBRID ALGORITHM FOR WATERMARKING BASED ON DCT AND DWT.
	13A51A0411	BALLA USHA	
	13A51A0450	GULIVINDALA SATEESH	
	13A51A0401	ABHINAV KUMAR	

ABSTRACT

Watermarking is the process of embedding Information into a digital signal. This process is to mark digital pictures with an invisible and undetectable secrete information. The development of digitized media due to rapid growth of networked multimedia systems that has created an urgent need for copyright enforcement technologies. This technology has been developed to protect digital imageinformation from illegal manipulations. In this project, watermarking will be implemented by using DCT, DWT and DCT-DWT transformation domain techniques with MATLAB. The performance of watermarking will be evaluated by comparing the PSNR values of the watermarked images.

Sl. No.	Roll No.	Name of the Student	Project Title
10	13A51A0431	CHICHHULA UPENDRA	Performance of Digital filters for noise removal from EEG signals in Time domain .
	13A51A0437	DANNANA KAVYA	
	13A51A0409	BALAKA VAMSI SAI KUMAR	
	13A51A0456	ILLINDRAPARTHI TEJASWANI	

ABSTRACT

Electroencephalographic (EEG) data is widely used as a bio signal for the identification of different mental states in the human brain. EEG signals can be captured by relatively inexpensive equipment and acquisition procedures are non-invasive and not overly complicated. On the negative side, EEG signals are characterized by low signal-to-noise ratio and non-stationary characteristics, which make the processing of such signals for the extraction of useful information a challenging task. Since the EEG signals, while recording are contaminated by several noises it is necessary to preprocess the signals prior to classification. The EEG signal can be processed in time domain as well as in frequency domain. Digital filters are used to remove noise from the signal. In this work we will show the performance of removal of noise like baseline wander and power line interference from the signal using Hybrid active power filter. The performance is tested on brain signals from MIT-BIH database

Sl. No.	Roll No.	Name of the Student	Project Title
11	13A51A0435	CHOWDARI SARITHA	DESIGN OF COMPACT RECTANGULAR S-SLOT MICROSTRIP PATCH ANTENNA FOR MULTIBAND APPLICATIONS.
	13A51A0423	BOMMALI KAVITHA	
	13A51A0415	BEJJIPURAPU JAGADEESWARA RAO	
	14A55A0410	JALLA AJAY KUMAR	

ABSTRACT

The aim of this project is to design a compact rectangular s-slot micro strip patch antenna for multiband applications. Micro strip patch antennas are lighter in weight, low cost, low profile and ease of fabrication. The micro strip antennas are operating at narrow bandwidth so the bandwidth can be broadened by using the different techniques. The applications are in the various fields such as in the medical applications, satellites and of course even in the military systems just like in the rockets, aircrafts missiles etc**.**

This project describes the performance analysis of micro strip patch antenna using the coplanar waveguide feeding technique is used in which RF power is fed directly to the radiating patch using a connecting element such as a micro strip line. The proposed antenna simulation is done through simulation software called An soft HFSS. The parameters that are focused here is Resonant frequency, Return loss, VSWR, Gain and directivity.

Sl. No.	Roll No.	Name of the Student	Project Title
12	13A51A0418	BILLINGI SURENDRA	
	13A51A0420	BOBBADI GANESH	
	13A51A0445	GALI SANTOSHI	
	13A51A0443	DURGA NIRUPAMA	

Sl. No.	Roll No.	Name of the Student	Project Title
13	13A51A0407	BAGADI SONIKA	IMPROVISATION OF SPECTRALCHARACTERISTICS OF WINDOW FUNCTIONS FOR FIR FILTERS USING FRFT-M ORDER POLYNOMIAL FUNCTIONS .
	13A51A0448	GUDLA ASHA	
	13A51A0412	BAMMIDI DILEEP KUMAR	
	13A51A0404	*ARBIND SINGH*	

ABSTRACT

FIR (finite impulse response) filters with window based design is quite common in signal processing for removing noise in signals. There are many windows available for signal processing such as Bartlett, hamming, Hanning, Blackmann, etc. Here an attempt is made to improve spectral characteristic like RSA of conventional windows by using fractional Fourier transform which is applied to combination of conventional window and m^{th} order polynomial window. The improved conventional window function is then applied for FIR filter design for removal of power line noise from ECG.

Sl. No.	Roll No.	Name of the Student	Project Title
14	13A51A0425	BOYINA SWAPNA	ARDUINO BASED AUTOMATIC PLANT WATERING SYSTEM
	14A55A0403	BARATAM PRASANTH KUMAR	
	13A51A0452	GURUVELLI RAMADEVI	
	14A55A0405	BUGATA LOKESH	

ABSTRACT

Watering is the most important cultural practice and most labor intensive task in daily greenhouse operation. Nowadays many people are facing a lot of problems watering the plants in the garden especially when they are away from home. Without losing their time and efforts many people can avail a better option in the form of an automatic plant watering system that helps watering the plants in the garden. In the mid 20th century, the advent of diesel and electric motors led to systems that could pump groundwater out of major aquifers faster than drainage basins could refill them. This can lead to permanent loss of aquifer capacity, decreased water quality, ground subsidence, and other problems. The Arduino Uno is a microcontroller board based on the ATmega328. Moisture sensor devices are timer based devices available in India which water the soil on set interval. Soil moisture sensor detects amount of moisture in soil. It is compatible with Arduino Uno which uses low power and high sensitivity. This project employs the use of a small water pump which is connected to a H-Bridge. However the very cheap radio control servo, because it combines a freerunning motor and a simple position sensor with an embedded controller, and uses a motor driver circuit.

Sl. No.	Roll No.	Name of the Student	Project Title
15	14A55A0404	BODDEPALLI SARADA	Ultra sonic radar model using at mega micro controllers
	13A51A0416	BHASKARABHATLA ANUSHA	
	14A55A0412	KOLLI VIJAYA KUMAR	
	13A51A0447	GEDELA SANTHOSH	

		KUMAR	

ABSTRACT:

The project describes here demonstrates the working of the radar system. It uses ultra sonic waves to detect an object and measure its distance and angular positions, and displays the same on a20*4LCD screen. It can detect multiple objects at different angles and distances a new objects are detected .This means that the distance of the entire all the objects are displayed one by one on the same LCD screen. A radar system consists a transmitter that transmits a beam towards the target; which is then reflected by a target as an echo signal. The reflected signal is received by the receiver. This receiver process the received signal and provides such information as the presence of a target ,distance ,position(moving or stationary) or speed which is displayed on a display unit. This system includes an ultrasonic distance measurement (UDM) sensor, LCD panel and onto interrupt sensor, motor driver, DC motor, buzzer and LEDs. Ultra sound is a high frequency sound (typically 40KHz is used).a short burst of sound waves (often only 8 cycles)is sent out the "transmit "transducer (left, above). Then the "Receive "transducer listens for an echo. Thus, the principal of ultra sonic distance measurement is same as with radio based radar. Distance is calculated as :L=C*T/2,where L is the speed of sound in air is the time difference from the transmission from the transmitter to the receiver. This is divided by 2 for the two directions the sound travels. Speed of sound is about =334m/s(20 degrees C room temperature)

Sl. No.	Roll No.	Name of the Student	Project Title
16	13A51A0406	BADADA JYOTHI	Design and stimulation of rectangular microstrip patch antenna
	13A51A0449	GUDLA DIVYA	
	14A55A0409	GUNDALA KIRAN	
	13A51A0438	DASARA HAREESH	
	13A51A0406	BADADA JYOTHI	

ABSTRACT

Today in the communication world microstrip antennas play a vital role due its millimeter dimensions .Today's generations require many properties of an antenna to lie under acceptable limit.

Here the microstrip antenna is being presented. The microstrip antenna can be used for various applications such as medical fields, wireless systems, Bluetooth devices etc..

Here, rectangular microstrip is designed with operating frequency 2.4GHz with substrate material FR_4, stimulations are carried out by using computer simulation technology (GST) software. Return loss, radiation pattern, band width, S-parameters are the various properties observed after carrying stimulations.

Sl. No.	Roll No.	Name of the Student	Project Title
17	13A51A0427	BURI MODHINI	VOICE RECOGNITION BASED HOME AUTOMATION SYSTEM FOR PARALYZED PEOPLE
	13A51A0433	CHINTAKINDI DEVI PRASANTH	
	14A55A0407	GANDEPALLI MANOJ KUMAR	
	13A51A0432	CHINTADA SIRISHA	
	13A51A0427	BURI MODHINI	

ABSTRACT

The low cost voice recognition based home automation system for the physically challenged People suffering from quadriplegia or paraplegia (who cannot move their limbs but can speak and listen) to control the various home appliances just by the voice commands according to their need and comfort. This system consist a voice recognition module using Bluetooth, Arduino Uno microcontroller, and relay circuit. The voice recognition module should be trained first before it can be used to recognize commands. Upon successful recognition arduino drivers the corresponding loads with the help of the relay circuit. The
Accuracy of voice recognition module can be measured in different conditions of electronic appliances. The system provide great assistant to the physically challenged people without any third persons assistance.

Sl. No.	Roll No.	Name of the Student	Project Title
18	13A51A04A8	NAUPADA VIDYA RAVALI	DENTAL IMAGE SEGMENTATION BY USING COMBINATION OF FCM AND eSFCM.
	13A51A0476	KOBAGAPU RAJA KUMARI	
	13A51A0489	KURAMANA RAJITHA	
	13A51A0499	METTA KRISHNA CHAITANYA	
	13A51A04C0	PATTA KISHORE	

ABSTRACT

The X-Ray image segmentation problem is a difficult task in image processing techniques. The FCM, eSFCM and other fuzzy sets algorithms used for density estimation of data in an unsupervised and supervised. These algorithms are used for estimating the image parameters; the resulting pixels clusters provide a segmentation of the image. These algorithms have been applied for dental X-ray image for image segmentation.
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Sl. No.	Roll No.	Name of the Student	Project Title
19	13A51A0465	KANITHI POOJA	Adaptive Modulation based onMultipath effects .
	13A51A04B3	PALLI RAMA DEVI	
	13A51A04A5	NAGIREDDY LOKESWARA RAO	
	13A51A04B1	PAIDI HEMANTH KUMAR	

ABSTRACT

Communicating effectively over a large distance has always been the quest of engineers and scientists and with the transition of modern day systems from analog to digital, has further complicated the scenario. Several modulation techniques like the AM and FM, have been tried and tested in the past century to get the desired analog signal at the receiver. But with the introduction of digital systems we find ourselves in the time of ever increasing demand for high data rates and optimum bandwidth usage. This has forced us to look for better modulation techniques with higher immunity to environmental noise and channel distortion. There is a compromise that needs to be made between the available bandwidth and the number of bits/symbol that can be sent over the line, which in turn limits the maximum data rate on the link. Thus choice of digital modulation schemes is absolutely critical, especially in an environment like the satellite uplink - downlink where resources are very limited and time slots are auctioned at very high rates. Having the knowledge of the resources needed to maintain an acceptable Bit

Error Rate (BER), it will be possible to change the modulation scheme during sudden environmental changes, like rainfall, stand storms and tornadoes to sustain the communication link. BPSK and BPSK SQRC are considered to be adaptive modulation schemes which will be varied based on the type of the multipath effect.

Sl. No.	Roll No.	Name of the Student	Project Title
20	13A51A0479	KOPILASA MANMADHA RAO	DIGITAL IMAGE WATERMARKING BASED ON DWT USING QR CODE.
	14A55A0420	NETINTI USHA	
	13A51A0488	KURAMANA DHANALAKSHMI	
	13A51A0471	KELLI VENKATA SANTOSH KUMAR	

ABSTRACT

In this science era with the development of technology and internet, the protection and authentication of data is essential. Watermarking techniques provide solution to this problem. QR code being so versatile because of its structural flexibility that it leads to so many diverse field for research such as increasing data capacity, security applications such as different kinds of watermarking . We have used QR code as cover image and as secret image to protect it from other users. This paper is representing a new watermarking technique with QR code to protect the secret image. In the method described here the image is first encrypted in random matrix, then it is invisibly watermarked in cover image and no information about the secret image and cover image is needed for extraction of secret image, so it more secure.

Keywords: Watermarking, DWT, QR code, Watermark embedding, Watermark extraction.

Sl. No.	Roll No.	Name of the Student	Project Title
21	14A55A0425	SOLANKI HETAL KUMARI	CHANNEL ESTIMATION METHOD FOR OFDM SYSTEMS .
	13A51A0495	MALLA BHARATH	
	13A51A0473	KILLI SANTOSHI KUMARI	
	13A51A0484	KOTTAKOTA SUMANTH	

ABSTRACT

Orthogonal Frequency Division Multiplexing (OFDM) plays a predominant role in present day wireless communication. The principle of OFDM is to transmit data simultaneously across a channel using orthogonal subcarriers. This results in far efficient utilization of available channel bandwidth when compared to its predecessor Frequency Division Multiplexing (FDM). Typically, wireless channels are small-scale fading channels and are thus inherently time selective. They corrupt the transmitted data to a severe extent, and this leads to unacceptable error rates in the received data. This problem can be overcome by performing Channel estimation at the receiver.

The channel estimation can be done by inserting pilots at the receiver side. There are three types of pilot arrangement techniques, block type, comb type and Lattice type. In these pilot arrangements, pilots are inserted along with time or frequency or both time and frequency. In time selective fading channel pilots are inserted along frequency axis. So, in this project, proposed training pattern of the kind; comb type pilot arrangement has been proposed to perform channel estimation. Comb type pilot estimation needs to estimate the channel at pilot frequencies

and at data frequencies. The channel at pilot frequencies is estimated using Least Squares (LS) and Minimum Mean Square Error (MMSE) estimators, and the channel at data frequencies is estimated using Linear Interpolation and Spline Interpolation techniques.However, both the two estimator are not able to reach a compromise between accuracy and computational complexity**.** Thediscrete Fourier transforms (DFT) –based channel estimation can get a better performance by a time domain processing**.** And this training sequence offers an additional advantage of reduction in peak-to-average power ratio (PAPR) to the desirable level.

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Sl. No.	Roll No.	Name of the Student	Project Title
22	13A51A0470	KELLAKA PRASANTHI	DESIGN AND SIMULATIN OF MICRO STRIP CIRCULAR PATCH ANTENNA.
	13A51A0491	LAMMATHA VASANTHA KRISHNA MURTHY NAIDU	
	14A55A0424	PONDALA MYTREYI	
	14A55A0423	RUSHYASRUNGI UDAY KUMAR	

ABSTRACT

Today in the communication world microstrip antennas play a vital role due its millimeter dimensions. Today's generation require many properties of an antenna to lie under acceptable limit. Here the microstrip antenna is being presented. The microstrip antenna can be used for various applications such as in medical field, wireless systems, Bluetooth devices etc., Here circular microstrip antenna is designed with operating frequency 2.4GHz with substrate material FRI4,simulations are carried out by using computer simulation Technology(CST) software. Return loss, radiation pattern, bandwidth, S-parameters are the various properties observed after carrying out simulations.

Sl. No.	Roll No.	Name of the Student	Project Title
23	14A55A0418	MUKTESHWAR DAS	HOME AUTOMATION USING IOT.
	13A51A0493	MAHANTI RAJESH	
	13A51A0472	KHANDAPU VINOD KUMAR	
	13A51A0467	KARRA TERISA	

ABSTRACT

With advancement o Automation technology, life is getting simpler and easier in all aspects. In today's world Automatic systems are being preferred over manual system. With the rapid increase in the number of users of internet over the past decade has made Internet a part of life, and parcel of life, and IOT is the latest and emerging technology. Internet of things is a growing network of everyday object from industrial machine to consumer goods that can share information and complete tasks while you are busy with other activities. Wireless Home Automation System (WHAS) using IOT is a system that uses computers or mobile devices to control basic home functions and features automatically through internet from anywhere around the world, an automated home is sometimes called a smart home. It is meant to save the electric power and human energy. The home automation system differs from other systems by allowing the user to operate the system from anywhere around the world through internet connection.

In this project we present a Home Automation System (HAS) using ESP8266 Microcontroller, and ATmega328 Arduino those employs the integration of cloud networking, wireless communication to provide the user with remote control of varies lights, fans and appliances within their home and storing the data in the cloud. The system will automatically change on the basis of sensors data.T his system is designed to be low cost and expandable allowing a variety of devices to be controlled.

Sl. No.	Roll No.	Name of the Student	Project Title
24	13A51A0462	KALLA RAVI TEJA	SPEECH ENHANCEMENT USING COMBINATIONAL ADAPATIVE LMS ALGORITHM.
	14A55A0419	NAMBALLA VEDAVYAS	
	14A55A0421	POGIRI MALATHI	
	14A55A0417	MALLIPEDDI CHANDAN	

ABSTRACT

The key to successful adaptive signal processing understands the fundamental properties of adaptive algorithms like LMS. Adaptive filter is used for the cancellation of the noise component (in the speech and acoustic signal processing) which is overlap with undesired signal in the same frequency range. Here we presents design, implementation and performance of adaptive FIR filter , based on variations in LMS algorithm and obtains demised signal at output, and also we propose to calculate SNR values of adaptive filter with LMS algorithms and comparison is made among the LMS algorithms.

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Sl. No.	Roll No.	Name of the Student	Project Title
25	13A51A04A2	MUKALLA GAYATHRI	COMPARATIVE STUDY OF VARIOUS TYPES OF IMAGE NOISES AND EFFICIENT NOISE REMOVAL TECHNIQUES.
	13A51A04B2	PAKKI SRIKANTH	
	14A55A0415	KANDYANA VASANTHA	
	13A51A04B0	P SRINIVAS KUMAR	

ABSTRACT

Image de noising plays an important role in the image processing and computer vision applications. Morphological techniques are used to de noise the image corrupted by different type of noises. Mathematical morphology is a new mathematical concept based on set theory. Morphological operations are mainly used in gray scale and bi-level images to process and analyze images. Erosion and dilation are the two different morphological techniques to de noise the image. With the help of DWT algorithm parameters are evaluated of the noise image and original image. The proposed work is done using matlab R2015a..

Sl. No.	Roll No.	Name of the Student	Project Title
26	13A51A04B7	PANIGRAHI ANUSHA	DISH POSITIONING USING INFRARED REMOTE.
	13A51A0496	MANTHRI SRIKANTH	
	13A51A04A0	MIRTIPATI ROJA	
	13A51A0464	KANCHARANA VASISHTA	

ABSTRACT

This project is designed to develop a dish positioning system which can be operated by

using a conventional TV remote. The main application of using a dish is to receive signal from satellites and other broadcasting sources. In order to position the dish to the exact angle to receive the maximum signal of a particular frequency, it needs to be adjusted manually. In order to overcome the difficulty of adjusting manually, this proposed system helps in adjusting the position of the dish through a simple TV remote. The system consists of two motors that enable the dish to move both in horizontal and vertical direction. The TV remote acts as a transmitter whose data is received by an IR receiver which is interfaced to a microcontroller of 8,051 families. The TV remote sends coded data to the receiver whose output is then sent to the microcontroller. The microcontroller sends control signals to the motors through an interface IC also known as motor driver IC. The code followed by the TV remote is standard RC5 code. This code is used in the program to recognize the input code from the TV remote for the controller to develop appropriate output signal for the motor driver IC .

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Sl. No.	Roll No.	Name of the Student	Project Title
27	13A51A0474	KINTALI NAVYA	RECONFIGURABLE EXTENDED U-SLOT ANTENNA WITH SWITCHABLE POLARISATION FOR WIRE LESS APPLICATIONS
	13A51A0490	LAKHINANA AMULYA	
	14A55A0422	RABILLI SURESH	
	13A51A0461	JANAPANA ESWARAREDDY	

ABSTRACT

. This paper proposes a reconfigurable extended U-slot antenna with polarization diversity for wireless applications. The antenna is able to switch among linear polarization (LP) and left-hand (LH) and right-hand (RH) circular polarizations (CPs) for 2.4-GHz wireless local area network (WLAN) systems. The antenna is composed of an extended U-slot patch with modified ground plane and two p-i-n diodes to switch the slots at ON- and OFF-states. The p-i-n diodes are appropriately positioned to change the length of the slot arms, which alters the antenna's polarization with frequency diversity to operate in four states. The simulated and measured results verified the effectiveness of the proposed antenna configuration. This reconfigurable patch antenna with agile polarization and frequency diversity has good performance and concise structure, which can be also used for LP at 2.6-GHz Worldwide Interoperability for Microwave Access (WiMAX), digital multimedia broadcasting, 3.5-GHz WiMAX, C-band satellite (downlink), and HiperLAN/2 systems. Keywords: Extended U-slot; patch antennas; polarization diversity; reconfigurable

Sl. No.	Roll No.	Name of the Student	Project Title
28	13A51A04B4	PANANGAPALLI PAVAN KUMAR	ARDUINO BASED SURVEILLANCE VEHICLE
	13A51A0497	MARPU RAMKUMAR	
	14A55A0416	KARANAM THARUN	
	13A51A0466	KARAGGI SAI SANTHI	

ABSTRACT

In the recent past , wireless controlled surveillance vehicles had been extensively used in a lot of areas like unmanned rescue missions , military usage for unmanned combat and many others .but the major disadvantage of these surveillance robots is that the typically make use of

RF circuits for maneuver and control. Essentially RF circuits suffer from a lot of draw backs such as limited frequency range i.e., working range, and limited control. To overcome such problems associated with RF control, few papers have been written, describing methods which make use of the DTMF function of cell phone to control the robotic vehicle. This project although uses the same principle technology of the DTMF based mobile phone but it essentially shows the construction of a robot in a novel way using an android smart phone to wirelessly transmit captured video to a remote user through internet . In order to control the motion of the vehicle, we use an arduino microcontroller. This improvement results in considerable reduction of circuit complexity.

Our cost effective surveillance robot using an arduino microcontroller typically consists of a smart phone running on android operating system and a DTMF module. the robot can be controlled remotely from a pc using the internet and a microcontroller – smart phone interface

Sl. No.	Roll No.	Name of the Student	Project Title
29	13A51A0492	LANKA BHAVANI	Multipath Based Adaptive Modulation Using QAM and QPSK
	13A51A04A3	MUNI ROHIT RUSHI	
	14A55A0413	KALAVALA HEMALATHA	
	13A51A04A7	NARADA BENARJI	

ABSTRACT

Communicating effectively over a large distance has always been the quest of engineers and scientists and with the transition of modern day systems from analog to digital, has further complicated the scenario. Several modulation techniques like the AM and FM, have been tried and tested in the past century to get the desired analog signal at the receiver. But with the introduction of digital systems we find ourselves in the time of ever increasing demand for high data rates and optimum bandwidth usage. This has forced us to look for better modulation techniques with higher immunity to environmental noise and channel distortion. There is a compromise that needs to be made between the available bandwidth and the number of bits/symbol that can be sent over the line, which in turn limits the maximum data rate on the link. Thus choice of digital modulation schemes is absolutely critical, especially in an environment like the satellite uplink - downlink where resources are very limited and time slots are auctioned at very high rates. Having the knowledge of the resources needed to maintain an acceptable Bit Error Rate (BER), it will be possible to change the modulation scheme during sudden environmental changes, like rainfall, stand storms and tornadoes to sustain the communication link. QAM and QPSK are considered to be adaptive modulation schemes which will be varied based on the type of the multipath effect.

Sl. No.	Roll No.	Name of the Student	Project Title
30	13A51A0487	KUPPILI SRUTHI	DESIGN OF RECONFIGURABLE W-SLOTANTENNA USING HFSS.
	13A51A0478	KONDRI SANDHYA RANI	
	13A51A04B5	PANCHADI SANTOSH KUMAR	
	14A55A0414	KAMMINANA SRIKANTH	

ABSTRACTA low profile micro strip patch antenna with rhombus shaped is designed at an operating frequency at 2.37 GHz, 4.8 GHz, and 8.16GHz.. Micro strip Patch Antennas are antennas, conformable to planar and non-planar surfaces, simple and easy to manufacture using

modern printed circuit technology, mechanically robust when mounted on rigid surfaces and when the particular patch shape and size are selected, they are very versatile in terms of resonant frequency, polarization, pattern and impedance . HFSS is a commercial finite element method solver for electromagnetic structures. The results are analyzed and discussed in terms of return loss, radiation pattern,3D polar plot , gain. The return loss comes out to be -6.4dB for the designed antenna. The length of the antenna is nearly half wavelength in the dielectric; it is a very critical parameter, which governs the resonant frequency of the antenna. and the results are simulated using HFSS simulator

Sl. No.	Roll No.	Name of the Student	Project Title
31	13A51A0469	KASI MOUNIKA SAI	Car Anti – Theft Alarm Using MQTT Protocol.
	13A51A04A6	NAKKA REVATHI	
	13A51A04B9	PATNANA SANTOSH KUMAR	
	13A51A0486	SRIKANTH KUMAR DAS	

ABSTRACT

Security, especially theft security of vehicle in common parking places has become a matter of concern. An efficient automotive security system is implemented for anti-theft using an embedded system integrated with sensor technology and MQTT protocol. This proposed work is an attempt to design and develop a smart anti-theft system that uses sensors and M QTT protocol system to prevent theft and to receive alert messages fastly whenever a robbery or theft attempted. The system contains MQTT protocol, MQTT dashboard, atmega328 microcontroller, ESP8266 datasheet, Arduino Uno, Piezo Sensor. Sensor receives the vibration and measure the vibration level. The MQTT protocol will send an alert message to the user whenever the vibrations cross the threshold point. User connects to the MQTT server and subscribed to the specified topic by the MQTT dashboard. This complete system is designed taking in consideration the low range vehicles to provide them extreme security.

Sl. No.	Roll No.	Name of the Student	Project Title
32	13A51A0477	KONCHADA SONIYA	IMPLEMENTATION OF WINDOW FUNCTIONS AND FIR FILTERS BY USING SIMPLIFIED FRACTIONAL FOURIER TRANSFORM OF TYPE-1 .
	13A51A04A4	MYLAPILLI ADHARSH	
	13A51A0482	KOSURU SATEESH KUMAR	
	13A51A04A9	P LOKESWAR RAO	
	13A51A0477	KONCHADA SONIYA	

ABSTRACT

In signal processing, a window function is a mathematical function that is zero valued outside of some chosen interval. A more general definition of window functions does not require them to be identically zero outside an interval , as long as the product of a window multiplied by its argument is square integral and more specifically, that the function goes significantly rapidly towards zero. Applications of window functions include spectral analysis and the design of finite impulse response filters. Window function is used to analyze the spectral characteristics of the signals to minimize the Gibbs phenomenon. The effectiveness of spectral characteristics of window is judged through three important parameters like side lobe attenuation (SLA),

bandwidth (BW) and side lobe fall off ratio. In literature this has been done through implementation using Fourier transform and fractional Fourier transform. Here an attempt is made to analyze window functions through recently introduced simplified fractional Fourier transform type-2 and also compare the consequences based on proposed method with existing methods. Furthermore design of FIR low pass filter with different cut off frequencies will be analyzed using proposed window function as a key parameter.

Sl. No.	Roll No.	Name of the Student	Project Title
33	13A51A04B6	PANCHIREDDI VENKATA KRISHNA MOHAN	RECONFIGURABLE W-SLOT ANTENNA WITH SWITCHABLE POLARISATION FOR WIRELESS APPLICATIONS
	13A51A0498	MENDA ESWARI	
	13A51A0468	KARUMOJU LALITA PRASANNA	
	13A51A0483	KOTIPATRUNI PRAVEEN	
	13A51A04B6	PANCHIREDDI VENKATA KRISHNA MOHAN	

ABSTRACT

Project proposes a reconfigurable w-slot antenna with polarization diversity for wireless applications. The antenna is able to switch among linear polarization (LP) and left-hand (LH) and right-hand (RH) circular polarizations (CPS) for 2.4-GHz wireless local area network (WLAN) systems. The antenna is composed of a w-slot patch with modify ground plane and two p-i-n diodes to switch the slots at ON –and OFF – states. The p-i-n diodes are appropriately positioned to change the length of the slot arms, which alters the antenna's polarization with frequency diversity to operate in four states. The simulated and measured results verified the effectiveness of the proposed antenna configuration.

This reconfigurable patch antenna with polarization and frequency diversity has good performance and concise structure, which can be also used for LP at 2.6 –GHz worldwide interoperability for microwave accesses (WiMAX), digital multimedia broadcasting, 3.5 –GHz WiMAX , c-band satellite (downlink) ,and hyper LAN/2 systems.

Keywords : w-slot ; patch antenna's ; polarization diversity ; reconfigurable

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Sl. No.	Roll No.	Name of the Student	Project Title
34	13A51A0494	MAKKA HARIKA REDDY	IMAGE DE-NOISING USING SHIFT VARIANT WAVELET TRANSFORM
	13A51A04B8	PAPPALA CHANDRABABU NAIDU	
	13A51A0463	KALLEPALLI SHANMUKHA SRINIVAS PRASANTH	
	13A51A0480	KORADA GAYATRI	
	13A51A0494	MAKKA HARIKA REDDY	

ABSTRACT

Image De-noising plays an important role in image pre-processing and computer vision applications. Image de-noising falls into two broad categories is known as spatial domain and frequency domain. Spatial masks or windows are used to do the spatial domain filtering. Transform domain methods mainly include depends on modifying the Fourier transform of an

image. The image de-noising method should not only de-noise the noise in the image but also should preserve edge content in the image. One of the perspective approaches in this area is using discrete wavelet transform (DWT). In this project, the shift variant wavelet transform Haar has been used to decompose the image and then these decompositions are subjected to soft theresholding. The threshold value has been calculated using different approaches. The performance evolution of the wavelet based de-noising technique has been done using Peak Signal to Noise Ratio (PSNR). The proposed work is done using MATLAB R2015a

Sl. No.	Roll No.	Name of the Student	Project Title
35	13A51A04F8	TANGUDU RESHMA	IMAGE DENOISING USING SHRINKING TECHNIQUES .
	13A51A04D4	RAPAKA RAMANA	
	13A51A04E6	SAVVANA KOMALI	
	13A51A04C4	PEETHA LATISHKUMAR	

ABSTRACT

Digital images are noisy due to environmental disturbances. To ensure image quality, image processing of noise reduction is a very important step before analysis or using images. Image de noising is one such powerful methodology which is deployed to remove the noise through the manipulation of the image data to produce very high quality images. In this work, Shrinkage methods are often used for suppressing Additive White Gaussian Noise (AWGN), Salt& pepper and Speckle Noise where theresholding is used to retain the larger wavelet coefficients alone. Minimum Mean Square Error estimation, PSNR are a common practice for noise analysis and Structural similarity index measure (SSIM) as a measure of the quality of de noising are thus going to included in this work. Overall we discuss in this review briefly the various Shrinkage methods and we assess them by posing a comparison between the PSNR and SSIM values of various shrinkage methods

Sl. No.	Roll No.	Name of the Student	Project Title
36	13A51A04H4	VYSYARAJU DIVYA	. TARGET TRACKING BY USING KALMAN FILTER
	13A51A04F6	TADELA SARANYA	
	13A51A04C1	PATTA NARAYANA RAO	
	12A51A0425	DEBARIKI MAHESH	

ABSTRACT

Target tracking is very essential in war fare applications and is widely used in all type of communications and also used to detect the position and distance (range) from the observer and is used to catch the thieves and so on. Traditionally, Kalman filter and its derivatives are some of the most popular algorithms in solving the signal problem. It is now quite common in the recursive approaches for motion estimation to find applications of the Kalman filtering technique both in time and frequency domains. In the block-based approach, very few approaches are available of this technique to refine the estimation of motion vectors resulting from fast algorithms.

This paper proposes an object motion estimation which uses the Kalman filtering technique to improve the motion estimates resulting from the Kalman application. The Kalman filter has been successfully applied to target tracking. However, the Kalman filter is computationally demanding if the input measurement rate is high or if the state dimension is large. Furthermore noisy measurements may decrease Kalman filter tracking accuracy. One way to possibly reduce the computational rate and sensitivity to noisy measurements is to partition the input spectrum into sub bands, down sample, and employ Kalman filters in each sub band.

Sl. No.	Roll No.	Name of the Student	Project Title
37	13A51A04C2	PEDAPENKI CHARLES KEERTHIVARMA	EFFICIENT NOISE REDUCTION IN ECG SIGNAL USING CASCADED WINDOW BASED DIGITAL FILTERS CONFIGURATION.
	13A51A04D0	PRIYANKA MAVUDURU	
	13A51A04G2	TOTTEMPUDI PHANINDRA	
	13A51A04F5	SWARNA KAMAL PANDA	

ABSTRACT

Electrocardiogram (ECG) is an electric device of measuring the electrical activity of heart. Removal of noise artifacts, baseline wandering and power interference plays a major role in diagnosing most of the heart diseases.ECG signal is confined of P wave, QRS complex and T wave. Various approaches are available for removal of noise artifacts from Electrocardiogram (ECG) signal. In order to retain the ECG signal morphology, several researchers have adopted different processing methods. In this paper cascading of window based FIR filters are adopted for removing low frequency, mid frequency and high frequency noise from the noisy real ECG. Different ECG signals from MIT-BIH NSR, ECG ID databases are taken and the results were evaluated using MATLAB software. Finally performance measures of Signal to Noise Ratio (SNR), Mean Square Error(MSE) and Power Spectral Density(PSD) of de-noised ECG signal is calculated and compared it with noisy real ECG.

Sl. No.	Roll No.	Name of the Student	Project Title
38	13A51A04G7	VANKALA PADMA	CT AND MRI IMAGE FUSION BY USING WAVELET MAXIMA ALGORITHM .
	13A51A04G5	VANGAPANDU RAVI KUMAR	
	13A51A04F4	SISTLA KEERTHI PRADA	
	13A51A04C7	POTNURU MAHESH	

ABSTRACT

The main aim of image fusion is to combine information from multiple images of the samescene in to a single image retaining the important and required features from each of theoriginal image. Now a days, with the rapid development in technology and moderninstrumentations, medical imaging has become a vital component of a large number ofapplications, including diagnosis, research, and treatment. Medical image fusion is the idea toimprove the image content by fusing images taken from different imaging tools likeComputed Tomography (CT), Magnetic Resonance Imaging (MRI), and Positron EmissionTomography (PET). For medical diagnosis, Computed Tomography (CT) provides the bestinformation on denser tissue with less distortion. Magnetic Resonance Image (MRI) providesbetter information on soft tissue with more distortion. In this case, only one kind of imagemay not be sufficient to provide accurate clinical requirements for the physicians. Therefore,the fusion of the multimodal medical images is necessary. This project presents a method ofimage fusion based on wavelet maxima algorithm. The fusion performance is evaluated on thebasis of the entropy and SSIM.
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Sl. No.	Roll No.	Name of the Student	Project Title
39	13A51A04D5	RATNALA HARINI	AN ANALYSIS ON EFFECT OF

	14A55A0427	TELLI NIRANJAN	SLOT ON DUAL-BAND MOBILE ANTENNA USING ADS SOFTWARE
	13A51A04G4	VANA SUDARSANA	
	13A51A04E7	SEEPANA PRAVEEN KUMAR	

ABSTRACT

In recent years, handheld mobile wireless communication devices (especially mobile phones) have been widely and rapidly developed. Besides keeping the appearances attractive, these devices must be small. For attractiveness in appearance, internal antennas that can be completely concealed, and quite unfortunately, the space in a mobile phone that can be allocated to deploy an internal antenna becomes more and more limited. In addition, for better functionality, most internal mobile-phone antennas are required to provide operating bands wide enough to support the following communication standards: GSM 850 (824-894 MHz), GSM 900 (880-960 MHz), DCS (1710-1880 MHz), PCS (1850-1990 MHz), UMTS (1920-2170 MHz) and WWANs (2.4-2.484 GHz).

Microstrip patch radiators are a common starting point for such applications, but are fundamentally constrained in both bandwidth and gain. A further constraint imposed on patch antennas is the natural dimensioning imposed by the fundamental resonant modes. Size reductions may be achieved in several ways, e.g. the introduction of slots, or modified slotted geometries, such as the L-shaped, or split ring structures.

In this thesis, a planar dual-band internal antenna designed for mobile phone applications is presented. The design begins with constructing a meandered monopole and effect of slot on the meandered monopole was studied using **A**dvance **D**esign **S**ystem Software (ADS).

Sl. No.	Roll No.	Name of the Student	Project Title
40	13A51A04C8	POTNURU SRAVANTHI	DESIGN, ANALYSIS AND COMPARISION OF MULTIPLIER TECHNIQUES IN VLSI.
	13A51A04H1	VAVILAPALLI CHITTI NAIDU	
	13A51A04H2	VEDULA N V S SRAVYA	
	14A55A0434	VAPPANGI VAMSI	

ABSTRACT

Rapidly growing technology has raised demands for fast and efficient real time digital signal processing applications. Multiplication is one of the primary arithmetic operations in every application and it requires substantially more hardware resources and processing time than addition and subtraction. Multiplier is an area consuming and slowest element, its performance will determines the performance of a VLSI system design itself. So that it is necessary to design an efficient multiplier in terms of satisfying the important parameters of low power, less area and high speed. The speed of multiplication can be increased by reducing the number of the partial products. So minimization of partial products is the main objective of our project. Here the fast multipliers like Array, Wallace tree and Modified Wallace tree multipliers are designed, analyzed and compared on the basis of parameters such as Time delay, Power consumed and Area occupied. The design entry of above multipliers will done using VERILOG hardware description language and synthesized using Xilinx 13.1 version software

Sl. No.	Roll No.	Name of the Student	Project Title
41	13A51A04G0	THAMMINENI BHAVYA	ASSISTIVE ULTRASONIC

	14A55A0428	BAGGU PRASANNA KUMAR	SENSOR & ANDROID BASED SMART STICK FOR VISUALLY IMPAIRED PERSONS WITH MATLAB INTERFACE.
	13A51A04D3	RAMBHA SATYA SAGAR BALAJI	
	13A51A04H9	SIRIYAPU REDDY VASUNDHARA	

ABSTRACT

The aim of this project is to detect an obstacle by using ultrasonic sensor. Ultrasonic sensor is a unidirectional sensor, therefore it is mounted on a servomotor control. Servomotor rotates the sensor in the angle of 180 degrees. Here microcontroller is used to collect the data from the sensor, if any obstacle is present in its path it gives signal to the android mobile through Bluetooth. Then the android mobile warns the person through a voice message. We can also visualize the trace on the screen by using Matlab software.

Sl. No.	Roll No.	Name of the Student	Project Title
42	13A51A04C5	PILAKA ROJA	**OPTIMIZATION OF PLANAR HEXA-BAND ANTENNA FREQUENCY RESPONSE**
	13A51A04H0	VARUDU SWATHI	
	13A51A04H3	VEMAPADAPU SRINIVAS	
	13A51A04F3	SIRLA AMITH	

In recent years, handheld mobile wireless communication devices (especially mobile phones) have been widely and rapidly developed. Besides keeping the appearances attractive, these devices must be small. For attractiveness in appearance, internal antennas that can be completely concealed, and quite unfortunately, the space in a mobile phone that can be allocated to deploy an internal antenna becomes more and more limited. In addition, for better functionality, most internal mobile-phone antennas are required to provide operating bands wide enough to support the following communication standards: GSM 850 (824-894 MHz), GSM 900 (880-960 MHz), DCS (1710-1880 MHz), PCS (1850-1990 MHz), UMTS (1920-2170 MHz) and WWANs (2.4-2.484 GHz).

In the project, a planar hexa-band internal antenna designed for mobile phone applications is presented. The proposed antenna occupying a small area of 45x12mm2 is placed on the top no-ground portion of the system circuit board with a ground-plane size of 45x100mm2. The design begins with constructing a meandered monopole. With a parasitic and an impedance-adjustment structure subsequently added, the resulting antenna can be viewed as a printed planar inverted-F antenna with a parasitic resonant element. Two wide impedance bands can be generated by the designed antenna to support GSM 850, GSM 900, DCS, PCS, UMTS, and 2.4-GHz WLAN operations. The measurement was found to agree reasonably well with the simulation using **A**dvance **D**esign **S**ystem Software (ADS).

Sl. No.	Roll No.	Name of the Student	Project Title
43	13A51A04E4	SAMANTULA AJAY KUMAR	DESIGN OF CPW-FED MONOPOLE ANTENNA WITH L-SHAPE AND T-SHAPE FOR UWB APPLICATIONS
	13A51A04G3	VADDADI SRIVANI	
	13A51A04G8	VANKAYALA INDUSHA	
	13A51A04D8	RELLA ANIL	

ABSTRACT

A novel dual-band monopole antenna with a finite ground coplanar waveguide (CPW)-fed is designed for satisfying Ultra Wide Band (UWB) applications. The proposed antenna, comprising a rectangular planar patch element embedded with L shape and T-shape slots in the middle of the patch. The proposed antenna is simulated by using Ansoft HFSS simulation software. The proposed L-shape antenna with a length of 20mm is resonating at the frequency of 6.29 GHz with return loss of -13.99dB; monopole unit length of 21mm is resonating at the frequency of 5.487GHz with return loss of -15.3dB. Similarly the T-shape antenna is resonating at the frequency of 6.02GHz with return loss of -19.65dB. The parametric study is performed to understand the characteristics of the proposed antenna. All the antennas VSWR are varied from 1 to 2. Also, good antenna performances such as Resonant frequency, Return loss, VSWR, Gain and Bandwidth

Sl. No.	Roll No.	Name of the Student	Project Title
44	13A51A04G1	THOTA CHANDANA	DESIGN OF COMPACT RECTANGULAR S-SLOT MICROSTRIP PATCH ANTENNA FOR MULTIBAND APPLICATIONS .
	13A51A04E2	SABBANA CHAKRADHAR	
	13A51A04F1	SIMHADRI SANKAR PRASAD ACHARY	
	13A51A04C6	PONDALA SRIKANTH	

ABSTRACT

The aim of this project is to design a compact rectangular s-slot micro strip patch antenna for multiband applications. Micro strip patch antennas are lighter in weight, low cost, low profile and ease of fabrication. The micro strip antennas are operating at narrow bandwidth so the bandwidth can be broadened by using the different techniques. The applications are in the various fields such as in the medical applications, satellites and of course even in the military systems just like in the rockets, aircrafts missiles etc**.**

This project describes the performance analysis of micro strip patch antenna using the coplanar waveguide feeding technique is used in which RF power is fed directly to the radiating patch using a connecting element such as a micro strip line. The proposed antenna simulation is done through simulation software called Ansoft HFSS. The parameters that are focused here is Resonant frequency, Return loss, VSWR, Gain and directivity.

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Sl. No.	Roll No.	Name of the Student	Project Title
45	14A55A0429	PANILA YUGANDHARA RAO	IMAGE DENOISING BY USING SPATIAL DOMAINTECHINIQUES AND WAVELETS
	13A51A04G6	VANGARA SRUJANA	
	13A51A04F0	SILLA PRAVALLIKA	
	13A51A04E5	SASAPU GIRI BABU	

ABSTRACT

Image de noising is the removal or reduction of degradations that are incurred while the image is being obtained. The basic idea behind this project is the estimation of the Black and White image such as Lena image from the distorted or noisy image. There are various methods to restore an image from noisy distortions. Selecting the appropriate method plays a major role in

getting the desired image.

Efficient suppression of noise in the Black and White image such as Lena image is a very important issue. De noising finds extensive applications in many fields of image processing. Image De noising is an important pre-processing task before further processing of image like segmentation, feature extraction, texture analysis etc. The purpose of De noising is to remove the noise while retaining the edges and other detailed features as much as possible.

Sl. No.	Roll No.	Name of the Student	Project Title
46	13A51A04F7	TANGUDU DHARANI	MEDICAL IMAGE FUSION USING HYBRID MODEL
	13A51A04E9	SEVVANA VOOHA	
	14A55A0437	DAMA ANILKUMAR	
	14A55A0433	MYLAPILLI GOPIKRISHNA	

ABSTRACT

Image fusion refers to the process of combining the information from two or more images into a single high informative image. The fusion of an MRI and CT image of the same organ is to obtain a single image containing as much as information as possible about the organ for diagnosis. In this project two or more medical images are fused using the Discrete Wavelet Transform (DWT) and the Principal Component Analysis (PCA).To get the better quality of an image a new hybrid technique is done by combining the DWT and PCA by fashioning with DCT. This hybrid technique is proposed to obtain a better efficient and better quality fused image will have preserved edges and its spatial resolution and shift invariance. These images can be compared by using the entropy value. The simulation of above image fusion is done by using MATLAB software.

Sl. No.	Roll No.	Name of the Student	Project Title
47	13A51A04F9	TEJASWEE ROWTHU	ECG DENOISING USING IMPROVED FIR FILTERS USING MODIFIED WINDOWS APPROACH
	13A51A04C3	PEDDINTI VASUDEVA RAO	
	13A51A04F2	SINGAMSETTI SAI KUMAR	
	13A51A04E8	SEERAPU MANASA	

ABSTRACT

Electrocardiogram (ECG) signal is generally corrupted by various artifacts baseline wander noise, electromyography noise, power line interference, etc and these must be removed before diagnosis. Sometimes, power of noise becomes more than the signal. The task propounded in this project is removal of noise of ECG signal with a modified window function using improved FIR filters. In this, there is a noticeable improvement of frequency response by convoluting second order polynomial and Kaiser window function and the improved Kaiser window is again convoluted using low pass filter. Again convoluting second order polynomial and hamming window function and the obtained improve hamming window is again convoluted using band reject filter. Finally, the noisy ECG signal is passed through improved LPF and band reject filter to get filtered ECG signal.

Sl. No.	Roll No.	Name of the Student	Project Title
48	13A51A04H5	YADAV BALA VENKATA NARAYANA MANI	**PET AND MRI IMAGE FUSION BY USING DISCRETE WAVELET TRANSFORM**"
	13A51A04G9	VARISI SRILATHA	
	13A51A04E0	RUDRABHATLA SEETARAMA CHANDU	

	14A55A0432	KODI NIHAL	

ABSTRACT

Image Fusion is the process of integrating two or more images from a single modality or multiple modalities. A tumor can be formed either by uncontrolled growth of cells in a particular human organ or due to lesions caused by protracted radiation exposure. The objective of this project is to implement an innovative image fusion system for the detection of brain tumors. Fusing images obtained from MRI and PET can accurately access the tumor response. In this work, the proposed image fusion technique consists of two major processes such as image enhancement and image fusion both depend on Discrete Wavelet Transform (DWT). MRI and PET images are fused based on image enhancement and fusion technique that has been implemented and simulated in MATLAB. The fused image has complement information from both MRI and PET images and the visual quality has improved. The fusion parameters Average Gradient, Discrepancy, PSNR, MSE and Entropy are calculated and the results show the effectiveness of fusion based on DWT. This work can be extended to diagnose any type of abnormalities in all human organs.

Sl. No.	Roll No.	Name of the Student	Project Title
49	13A51A04D6	RAVADA HIMAVANTH	IMPLEMENTATION OF STREAM CIPHERS USING CHINESE REMAINDER THEOREM
	13A51A04E1	RUPPA MOUNIKA	
	14A55A0431	MENDA CHANDRA MOULI	
	13A51A04H8	YENNETI HARIKA	

ABSTRACT

Residue number system (RNS) based on the Chinese remainder theorem (CRT) permits the representation of large integers in terms of smaller ones . the set of all integers from 0 to m1 with RNS representation and component wise modular addition and multiplication constitutes direct sum of smaller commutative rings . Encryption and decryption algorithm based on the properties of direct sum of small rings offers distinct advantages over decimal or fixed radix arithmetic. In this project , representation of integer using RNS, is successfully utilized in additive , multiplicative and affine stream cipher systems .

The property of the cipher system based on RNS number system allow speeding up the encryption/decryption algorithm , reduce the time complexity and provides immunity to side channel , algebraic and known plain text attacks . in this project , the characteristics of additive, multiplicative and affine stream cipher systems , the key generation , and encryption and decryption based on RNS number system representation are going to be discussed.

Keywords- Chinese remainder theorem (CRT), residual number system (RNS) , ring structure, stream cipher , parallel processing , key sequence .

Sl. No.	Roll No.	Name of the Student	Project Title
50	13A51A04D2	PYDISETTI SRUJANA	ENHANCEMENT OF CARDIAC SIGNAL BY USING SAVITZKY-GOLAY FILTER.
	14A55A0436	PONUKUPATI JAYARAM MANIKANTA	
	13A51A04H7	YENDUVA VAMSI	
	13A51A04C9	POTTAM ANIL KUMAR	

ABSTRACT

Electrocardiogram (ECG) is the cheapest and non invasive method of depicting the heart activity and abnormalities. It provides valuable information about the functional aspects of the heart and cardiovascular system. It is the record of variation of bioelectric potential with respect to time as the human heart beats. The classification of ECG signals is an important application since the early detection of heart diseases/abnormalities can prolong life and enhance the quality of living through appropriate treatment. Since the ECG signals, while recording are contaminated by several noises it is necessary to pre process the signals prior to classification. The ECG signal can be processed in time domain as well as in frequency domain. Digital filters are used to remove noise from the signal. In this work we will show the performance of removal of noise like baseline wander and power line interference from the signal using savitzkygolay filter. The performance is tested on the compressed echo signals from MIT-BIH database.

Sl. No.	Roll No.	Name of the Student	Project Title
51	13A51A04D1	PYDI MAYURI	AUDIO WATERMARKING USING DWT AND ARNOLD TRANSFORM.
	13A51A04D9	ROKKAM YASWINI	
	14A55A0430	PANCHIREDDY VASANTHA KUMARI	
	14A55A0435	KARI GOPICHANT	

ABSTRACT

Digital Audio Watermarking involves the concealment of data within a discrete audio file. Digital watermarking is identified as a partial solution to related problems like illegal reproduction and distribution of digital media. The technology of embedding image data into the audio signal and additive audio watermarking algorithm based on one dimensional discrete wavelet transform(DWT) for the application of copyright protection. This algorithm is realized to embed a binary image watermark into the audio signal and improve the imperceptibility of watermarks.

The embedding information used is a binary image and Arnold Transform is used for image encryption. In addition, the performance of the proposed algorithm is measured in terms of Peak Signal to Noise Ratio (PSNR).The proposed scheme achieved good robustness against most of the attacks such as re-quantization, filtering, addition and multiplication of noise. The extracted watermark image quality is shown by considering correlation coefficient (CC) value with a suitable scaling parameter for embedding

M.TECH PROJECTS ABSTRACTS

DESIGN OF AREA EFFICIENT CONDITIONAL CMOS 8-BIT MAGNITUDE COMPARATOR

Mr.B.JYOSHNAKUMAR

ABSTRACT

In this project a Comparator with less transistor count and low power by having less active number of transistors is presented. Designed circuit is based on conditional methodology which does not require any Boolean equations. Conditions only will be checked whether the output to become True (False). Limited Fan-in and Fan-out is also achieved irrespective of the Word size. Total number of transistor count for N-bit is (N-1)*12+ (N-1)*10+6+10+4. The main theme is to provide new low area solution for transistor level designers. Static CMOS logic style is being considered for designing the circuit which has the prime disadvantage of occupying more area corresponding to number of transistors at the circuit level. The conditional approach presented will be helpful in optimizing the VLSI design constraint of area which leads to optimization of other design constraints. Circuit is designed by using S-EDIT tool for Schematic entry and T-SPICE for Simulation of TANNER EDA tool.

DESIGN AND REALIZATION OF PRACTICAL FIR FILTER BASED ON CSD AND DA ALGORITHMS

R THAVITI RAJU

ABSTRACT

Finite Impulse Response (FIR) Digital filters find extensive applications in mobile communications systems such as channel equalization, channelization, matched filtering and pulse shaping, due to their absolute stability and linear phase properties.

In this project it is proposed to design a practical FIR high pass filter using hamming window and obtain the frequency response using MATLAB software.

After designing the filter, it is to be realized in direct form architecture and implemented in VLSI. The direct form architecture consists of adders, multipliers and delay elements.

For the multiplication process the CSD and DA algorithm will be applied and compare the results in terms of power using XPOWER ESTIMATOR. Apart from this area and delay reports will be analyzed using Xilinx 13.1 ISE.

PERFORMANCE ANALYSIS OF MULTI-HOP GATEWAY ENERGY AWARE ROUTING (M-GEAR) PROTOCOL FOR WIRELESS SENSOR NETWORKS

Mr. V. MOHANA GANDHI

ABSTRACT

A Wireless Sensor Network (WSN) is a wireless network consisting of spatially distributed autonomous devices using sensors to monitor physical or environmental conditions. A WSN system incorporates a gateway that provides wireless connectivity back to

the wired world and distributed nodes. A key concern in WSN technology is to enhance the network lifetime and to reduce the energy consumption of the sensor network.

Many routing protocols are available for maximizing the network lifetime such as Low-Energy Adaptive Clustering Hierarchy(LEACH) protocol, Mobile Sink-based adaptive Immune Energy Efficient clustering Protocol (MSIEEP), Energy Aware Multi-hop Multi-path Hierarchical (EAMMH) protocol, where the energy consumption is more. The Base Stationing LEACH protocol is located too far from the sensor nodes and hence nodes are not capable of sending data to the Base Station. The MSIEEP protocol uses the Adaptive Immune Algorithm (AIA) to find the optimum number of Cluster Heads (CHs) to improve the lifetime and stability period of the network. The EAMMH protocol establishes multiple paths from each sensor node to the cluster head and provides an energy aware heuristic function to choose the optimal path, which suffers from low throughput.

In this project, MULTI-HOP-Gateway Energy Aware Routing (M-GEAR) protocol for Wireless Sensor Networks (WSNs) is proposed for minimum energy consumption based on the deployment of gateway node at the center and high probability of CHs in all regions. The performance of the proposed proto colis analyzed in terms of Throughput, energy consumption and network lifetime and compared with the above mentioned existing protocols. The project is implemented by using MATLAB 2015a software.

DESIGN OF AGING-AWARE EFFICIENT BOOTH MULTIPLIER USING ADAPTIVE HOLD LOGIC

K.VenugopalaRao

ABSTRACT

High speed and low power consumption is one of the most important designobjective on integrated circuits. As multiplier is the most widely used components insuch circuits, the multiplier must be designed efficiently. In this project the simple andefficient approach to reduce the maximum power consumption and delay, area is proposed. In this existing system negative bias temperature instability (NBTI) effect occurs when pMOS transistor is under negative bias which increases the threshold voltage of pMOS transistor and reduces the multiplier speed. Positive biastemperature instability effect (PBTI) occurs when an nMOS transistor is under positive bias. Both effects degrade transistor and in long term the system may fail dueto timing violations. In proposed system, design of aging-aware efficient bothmultiplier using adaptive hold logic (AHL) circuits achieves reliable operation underthe of NBTI proposed architecture with 4*4 multiplication using booth mathematicalapproach results to the area efficient design compared to the existing serialmultipliers.

3D CONSTRUCTION OF TUMOUR IN MAGNETIC RESONANCE IMAGING SLICES

Mr. M. HARISH

ABSTRACT

The World Health Organization (WHO) reports reveal that cancer deaths have been increasing day by day in India. Therefore, cancer detection is a challenging task to the doctors to detect it in the preliminary stages with the help of Magnetic Resonance Imaging (MRI). In this project, first the MRI image stack is preprocessed and a new Hybrid algorithm based on Expectation-Maximization, Histogram and object based thresholding methods have been developed to identify the cancer. The

resultant of the algorithm is in 2D format. For better understanding of the severity of the cancer these 2D images are combined to form a 3D view of the cancer. The performance of these hybrid fused techniques will be compared in terms of quality of the resultant tumor. The proposed work has implemented using MATLAB R2015a.

FACULTY PUBLICATIONS

A NEW METHOD OF TARGET TRACKING BY EKF USING BEARING AND ELEVATION MEASUREMENTS FOR UNDERWATER ENVIRONMENT

M.N.V.S. Santosh Kumar Department of ECE, AITAM, Tekkali, India

Abstract

Underwater moving object detection/tracking is critical in various applications such as exploration of natural undersea resources, acquiring of accurate scientific data to maintain regular surveillance of missions, navigation and tactical surveillance. Real time object detection/tracking which tends to obstacle avoidance is possible with an autonomous underwater vehicle (AUV) fitted with sensor(sonar). To bring these applications into effective use, there is a need to evaluate various solutions for the safe navigation of AUV in the significant underwater environment. Convergence time becomes a problem and plays an increasingly important role in safe navigation of AUV applications. To achieve this, several methods, i.e. Kalman Filter (KF), Extended Kalman Filter (EKF) and Particle Filter (PF) have been investigated, although all these methods have their own limitations. In this paper, a new method has been developed wherein tracking algorithm using EKF has been extended to the Bearing and Elevation only Tracking (BEOT) method. By using Monte Carlo approach, the performance of this algorithm has been analyzed. Consequently, the time of convergence has been calculated and accordingly the results have been plotted. Innovative approach for target tracking for an autonomous underwater vehicle (AUV) has been analyzed. Convergence issues pertaining to the new designed algorithm, wherein EKF has been extended. Mathematical analysis is performed for the updated measurements of bearing and elevation data. By examining the case of single sensor/observer bearing and elevation only tracking (BEOT) problem as the inaccuracies can be handled effectively.

SUBMARINE BASED COMMUNICATION OVER YEARS: A REVIEW

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Abstract

Submarine Antenna technology was started in 1890's and used in World War I and World War II. From the Second World War the Submarine Antenna technology has become increasingly important in our Country. At present for the combined operations and Network Centric Warfare (NCW) concepts, the design of Submarine based antennas is a challenging issue. For an antenna to be successfully adopted for Submarine use, it must satisfy numerous requirements, which are generally competitive in nature, such as the ability to with stand hydrostatic pressure, severe constraints on the physical size, a low weight and a large bandwidth to accommodate multiple functions and the ability to operate in a sea water environment [46]. In this paper, we have

presented the overall literature review, a brief history of Submarine based communication antennas and types of antennas with suitable frequency ranges starting from the year 1919 to 2016. Also we have studied the EM wave propagation in air and sea water, current trends in Submarine based communication antennas and limitations on the mast mounted antennas at the end.

KEYWORDS: UWB Antennas, Submarine based Antennas, mast mounted antennas, Properties of EM wave in air and sea water.

ANALYSIS OF STEGANOGRAPHIC COLOUR IMAGE BY USING INTEGER WAVELET TRANSFORMATION (IWT)

Dr.A.S.SrinivasaraoDept of ECE AITAM College, Tekkali, AP- 532201

Abstract

This project deals with secretly communicate the information over open environment like internet. Steganography attempts to hide the secret information & make communication undetectable. Steganography is used to cover the secret information so that no one can intelligence the information. This method has many challenges such as high hiding capacity and more robustness. In existing project have some problems like less powerful and low hiding capacity. In this project we propose a modern steganography technique with Integer Wavelet transform [IWT] and secrete key to achieve high hiding capacity, high security and good illustration quality. Then Integer wavelet transform [IWT] is applied to the cover image to get wavelet coefficients. Wavelet coefficients are randomly selected by using secrete key for embedding the secret data. Whereas the secrete Key is 8x8 binary matrix in which '1' represents data embedded in the corresponding wavelet coefficients and '0' represents no data present in the wavelet coefficients. Keywords: Steganographic, Integer wavelet transform [IWT].Optimum Pixel Adjustment Process [OPAP]

IMPLEMENTATION OF OCTAGONAL AND HEXAGONAL MICROSTRIP PATCH ANTENNAS FOR UWB APPLICATIONS

M.L.Naidu, Dr. B. Rama RaoDept of ECE AITAM College, Tekkali, AP- 532201

Abstract

Ultra Wideband (UWB) communication systems have the advantages of very high bandwidth, fading minimization from multipath, and low power requirements. As per the standards of Fedaral Communications Commission (FCC), the UWB range is 3.1 GHz to 10.6 GHz.The Ultra Wideband (UWB) is rapidly advancing as a high data rate wireless communication technology. The Bandwidth of an antenna can be extended to high frequencies by adding an octagonal or hexagonal strip horizontally from the printed antenna and asymmetrically affix a conducting strip to the antenna. The paper describes the design of antenna to enhance the bandwidth by increasing the size of the strip monopole by different geometries. Thegeometry of the wide Octagonal strip monopole is a Octagon of side 'a=9mm' where as for the wide Hexagon monopole is a Hexagon of side ‘a=10mm’.The strip is designed with a length of 23mm and gap 'd=3mm' between ground planes and strip for both the antenna geometries to achieve matching. The two printed monopole antennas are designed are etched onto a FR-4 epoxy substrate with an overall size of 45mm × 60mm ×1.6 mm. The proposed antennas is simulated by using Ansoft HFSS and tested by Vector Network Analyzer (E5071C) to obtain the results.

DIGITAL WATERMARKING APPROACH BASED ON EDGE BASED SORTED PIXEL VALUE DIFFERENCE (ESPVD)

Venkumahanti Ashok Kumar1, Department Of E.C.E, Aditya Institute of Technology & Management, Tekkali,

Abstract

Objectives: The major challenge in Imaging applications, particularly Digital Multimedia data transfer over the internet is data authentication with copyright protection to ensure ownership of identification. This paper aims to propose a new digital watermarking approach based on Edge based sorted pixel value difference (ESPVD) to protect copyrights. Method: The hypothesis behind the proposed method is mainly composed of two phases: Watermark inserting phase, detection and extraction phase. In the inserting phase, first of all motif pattern approach is used to generate the mixed Image and then, identify the edge pixel locations using morphological edge (ME) operator to embed the watermark. Now, sorted pixel value difference method is used to insert the watermark. The watermark extraction phase also uses the same procedure which is stated earlier to retrieve the watermark image. To evaluate and match the ground truth images with the proposed watermarked images, peak signal to noise ratio (PSNR) and normalized cross correlation (NCC) are employed as quantitative measures. Findings: The proposed algorithm is tested with two logo images inserted over 30 different popular images and the outcomes indicates that the proposed approach is consistently performing well in terms of PSNR and NCC. Application/Improvements: The present approach provides high level of authentication, robustness, security and copyright protection against several attacks by using motif patterns while changing the order of pattern sequence in the formation of mixed image

DESIGN AND REALIZATION OF PRACTICAL FIR FILTER USING HYBRID WINDOW AND CSD ALGORITHM

K. Chitambararao,E.Jaya ,T.Viswanadham ,L.Rambau, Department of ECE, AITAM, Tekkali,

Abstract:

Multiplier-less FIR filter design is the major requirement in VLSI signal processing. In this work the practical FIR low pass filter is designed using hybrid window for various mathematical operations like addition, average, exclusive-or and multiplication. Their frequency responses are obtainedby using Matlab. Multiplication based design of FIR Low Pass Filter (LPF) is realized in direct form structure and implemented in VLSI. This structure consists of adders, multipliers and delay elements. In VLSI multipliers consumpes more powerso that for multiplication of input with coefficients, the Canonical Signed Digit (CSD) algorithm is applied for multiplication process to reduce the power consumption. Apart fromthisthe simulation, synthesis, delay and power reports are analyzed by using Xilinx 13.1 ISE and XPower Estimator 11.1 Index terms: CSD algorithm,Double precision format, FIR filter, Hybrid window,Q format.

DESIGN OF AREA EFFICIENT CONDITIONAL CMOS 8-BIT MAGNITUDE COMPARATOR

Dr.M.N.V.V.S.Kumar,J.Swathi Department Of E.C.E, Aditya Institute of Technology & Management, Tekkali,

Abstract

Abstract: We present a Comparator with less Transistor count and low power by having less Active number of Transistors. Designed circuit is based on conditional methodology which does not require any Boolean equations. Conditions only will be checked whether the Output to

become True(False). Limited Fan-in and Fan-out is also achieved irrespective of the Word size. Total number of transistor count for N-bit is (N-1)*12+(N-1)*10+6+10+4. The main theme is to provide new low area solution for transistor level designers. Static CMOS logic style is being considered for Designing the Circuit which has the Prime Disadvantage of occupying more Area corresponding to number of Transistors at the Circuit level. The conditional approach presented will be helpful in Optimizing the VLSI Design Constraint of Area which leads to optimization of other Design constraints. Circuit was designed by using S-EDIT tool for Schematic entry and T-SPICE for Simulation of TANNER EDA tool. IndexTerms: Oddbit, Evenbit ,Comparator, CMOS.

GPS POSITION ESTIMATION USING INTEGER AMBIGUITY FREE CARRIER PHASEMEASUREMENTS

Dr.M.N.V.V.S.Kumar, Dr.G.Sateesh Kumar Department Of E.C.E, Aditya Institute of Technology & Management, Tekkali, India

Abstract— The GPS receiver position can be estimated either by using code or carrier phase pseudorange measurements. The navigation solution obtained using the carrier phase based measurements is more accurate than the code based pseudoranges. It is mainly due to the carrier phase wavelength of the GPS satellite transmitted on L-band signal is very small (i.e. 19cm for L1) compared to the code wavelength (i.e. 293m for C/A code). The receiver cannot accurately determine the integer number of wavelengths. Therefore, the carrier phase measurements observed at the receiver have some ambiguity in its estimation called integer ambiguity (integer number of carrier phase cycles). The key to precise carrier phase based positioning is to resolve these integer ambiguities which is extremely challenging when more noise or jamming is present. In this paper, a precise navigation solution algorithm based on integer ambiguity free carrier phase measurements is presented. This algorithm uses ambiguity free carrier phase measurements as well as least squares method. Keyword- GPS, Pseudorange, Carrier phase measurements.

IMPLEMENTATION OF OCTAGONAL AND HEXAGONAL MICROSTRIP PATCH ANTENNAS FOR UWB APPLICATIONS

M.L.Naidu, Dr. B. Rama Rao, , Dept of ECE, Aditya Institute of Technology and Management Tekkali, A.P.INDIA

Abstract

Ultra Wideband (UWB) communication systems have the advantages of very high bandwidth, fading minimization from multipath, and low power requirements. As per the standards of Fedaral Communications Commission (FCC), the UWB range is 3.1 GHz to 10.6 GHz.The Ultra Wideband (UWB) is rapidly advancing as a high data rate wireless communication technology. The Bandwidth of an antenna can be extended to high frequencies by adding an octagonal or hexagonal strip horizontally from the printed antenna and asymmetrically affix a conducting strip to the antenna. The paper describes the design of antenna to enhance the bandwidth by increasing the size of the strip monopole by different geometries. Thegeometry of the wide Octagonal strip monopole is a Octagon of side 'a=9mm' where as for the wide Hexagon monopole is a Hexagon of side ‘a=10mm’.The stripis designed with a length of 23mm and gap 'd=3mm' between ground planes and strip for both the antenna geometries to achieve matching. The two printed monopole antennas are designed are etched onto a FR-4 epoxy substrate with an overall size of 45mm × 60mm ×1.6 mm.The proposed antennas is simulated by using Ansoft HFSS and tested by Vector

Network Analyzer (E5071C) to obtain the results . The Hexagonal strip monopole is resonating at 5.5 GHz and UWB impedance bandwidth (S11 ranges from 1.3 to 5.65 GHz. The VSWR values for Hexagonal is 1.52:1 at 2.09GHz & for Octagonal it is 1.53:1 at 1.78GHz .The Bandwidth for Hexagonal is 7.87GHz, while for Octagonal is 4.35GHz. Key words - Bandwidth Octagonal, Hexagonal, UWB,HFSS.

PERFORMANCE ANALYSIS OF MULTIHOP-GATEWAY ENERGY AWARE ROUTING (M-GEAR) PROTOCOL FOR WIRELESS SENSOR NETWORKS

M.V.H.BhaskaraMurthy ,M.Lakshmu Naidu (Electronics and Communication Engineering Department, AITAM,Tekkali ,India.

Abstract

A Wireless Sensor Network (WSN) is a wireless network consisting of spatially distributed autonomous devices using sensors to monitor physical or environmental conditions. A WSN system incorporates a gateway that provides wireless connectivity back to the wired world and distributed nodes. A key concern in WSN technology is to enhance the network lifetime and to reduce the energy consumption of the sensor network.

Many routing protocols are available for maximizing the network lifetime such as Low-Energy Adaptive Clustering Hierarchy(LEACH) protocol,Mobile Sink-based adaptive Immune Energy Efficient clustering Protocol (MSIEEP), Energy Aware Multi-hop Multi-path Hierarchical (EAMMH) protocol, where the energy consumption is more. The Base Stationin LEACH protocol is located too far from the sensor nodes and hence nodes are not capable of sending data to the Base Station. The MSIEEP protocol uses the Adaptive Immune Algorithm (AIA) to find the optimum number of Cluster Heads (CHs) to improve the lifetime and stability period of the network. The EAMMH protocol establishes multiple paths from each sensor node to the cluster head and provides an energy aware heuristic function to choose the optimal path, which suffers from low throughput.

In this project, MULTI-HOP-Gateway Energy Aware Routing (M-GEAR) protocol for Wireless Sensor Networks (WSNs) is proposed for minimum energy consumption based on the deployment of gateway node at the center and high probability of CHs in all regions. The performance of the proposed protocolis analyzed in terms of Throughput, energy consumption and network lifetime and compared with the above mentioned existing protocols. The project is implemented by using MATLAB 2015a software.

IMAGE DE-NOISING WITH THE AID OF DUAL TREE WAVELET TRANSFORM AND ARTIFICIAL BEE COLONY OPTIMIZATION ALGORITHM

YugandharDasariDepartment of ECE, AITAM, Tekkali, India

Abstract

Determination of the threshold value is extremely an important part in wavelet based image de-noising. Finding appropriate threshold value can be done either by using deterministic approaches or soft computing algorithms. Artificial Bee Colony (ABC) is one of the algorithms motivated by the intelligent behaviour of honey bees. In this paper, a nature inspired population based image de-noising technique has been implemented to find the dynamic threshold value using an ABC algorithm by using Dual Tree Complex Wavelet Transform (DT-CWT). The DT-CWT is a relatively recent enhancement to the Discrete Wavelet Transform (DWT) with two additional properties known as shift invariance and directional selectivity. These additional features are in turn used to preserve geometric image features like ridges and edges. The

performance of the proposed method has been compared in terms of Peak Signal to Noise Ratio (PSNR) with conventional wavelet thresholding using DT-CWT and Adaptive Median Filter (AMF) techniques.

Keywords
Keywords: Image De-noising, Dual Tree Complex Wavelet Transform, Artificial Bee Colony Optimization, Peak Signal-to- Noise Ratio.

A HEURISTIC SPEECH DE-NOISING WITH THE AID OF DUAL TREE COMPLEX WAVELET TRANSFORM USING TEACHING-LEARNING BASED OPTIMIZATION

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Abstract
In our present work, we propose a nature inspired population based speech enhancement technique to find the dynamic threshold value using Teaching-Learning Based Optimization (TLBO) algorithm by using shift invariant property of dual tree complex wavelet transform (DT-CWT). The performance of these proposed methods are evaluated in terms of Perceptual Evaluation of Speech Quality (PESQ) and Peak Signal to Noise Ratio (PSNR). Speech quality of different speech waves are compared for two level wavelet packet decomposition and dual tree wavelet transform using soft threshold. The speech qualities of the waves are better than the other available articles in the literature. Keyword- Speech enhancement, Dual tree complex wavelet transform, Teaching-Learning-based optimization, Perceptual Evaluation of Speech Quality.

DESIGN AND REALIZATION OF PRACTICAL FIR FILTER BASED ON CSD AND DA ALGORITHMS

K Chitambararao, T Viswanadham , B. Chinnarao,Assoc.Professor,Department.of ECE,AITAM
Asst.Professor, Department.of ECE, AITAM, ,Assoc.Professor,Department.of ECE,AITAM

Abstract
FIR digital filters find immense applications in mobile communications systems such as channel equalization, channelization, matched filtering and pulse shaping, due to their absolute stability and linear phase properties. In this paper it is proposed to design a practical FIR filter using MATLAB tool to obtain the response. After that the filter will be designed and analyzed based on canonical signed digits and compared with the distributed arithmetic algorithm in order to minimize the power consumption and fast implementation of the filter. The design filter will be simulated and synthesized using Xilinx ISE 13.1 software. Keywords: FIR, CSD, DA, VERILOG HDL

IMPACT OF FACE PARTITIONING ON FACE RECOGNITION PERFORMANCE

HariharaSantoshDadi ,Assoc.Professor,Department.of ECE,AITAM

Abstract
Face partitioning algorithm is presented in this paper. Face is first divided into face parts namely head, eye pair, left eye, right eye, mouth and nose. Instead of giving the entire face as input in testing and training phases of face recognition algorithm, the face parts are given individually. Eigen features of all the face parts are extracted separately and given to the individual classifiers. Finally the classifier outputs aregiven to the decision making algorithm. This accepts all the face parts and generates a face based on thealgorithm. ORL data base is used for evaluating the performance of this new technique. Results are separately calculated with and without face

partitioning technique. Results show that face recognition rate is increased by using the combination of face partitioning technique and PCA. The new algorithm is also verified on 8 different data sets. There is an improvement of 15% face recognition rate using the new algorithm on ORL database.Index Terms: Face Partitioning, Facial features, Recognition engine, Support Vector Machine, Decision making algorithm.

PERFORMANCE METRICS FOR EIGEN AND FISHER FEATURE BASED FACE RECOGNITATION ALGORITHMS

HariharaSantoshDadi ,Assoc.Professor,Department.of ECE,AITAM

Abstract

Three performance curves for evaluation of face recognition algorithms are introduced in this paper. Cumulative Match Score Curves (CMC) is the curve between the rank and face recognition rate. Expected Performance Curves (EPC) is the graph between the alpha and error rate. Receiver Operating Characteristics (ROC) is the graph between false acceptance rate and verification rate. Twelve face recognition algorithms based on Eigen and fisher features are compared based on these curves. The performances of all these algorithms are analyzed based on these metrics. Index Terms Facial features, Principle Component Analysis, Kernel Fisher Analysis, Kernel Principle Component Analysis, Linear Discriminant Analysis, CMC, EPC, ROC.

IMPROVED FACE RECOGNITION RATE USING HOG FEATURES AND SVM CLASSIFIER

HariharaSantoshDadi ,Assoc.Professor,Department.of ECE,AITAM

Abstract

A novel face recognition algorithm is presented in this paper. Histogram of Oriented Gradient features are extracted both for the test image and also for the training images and given to the Support Vector Machine classifier. The detailed steps of HOG feature extraction and the classification using SVM is presented. The algorithm is compared with the Eigen feature based face recognition algorithm. The proposed algorithm and PCA are verified using 8 different datasets. Results show that in all the face datasets the proposed algorithm shows higher face recognition rate when compared with the traditional Eigen feature based face recognition algorithm. There is an improvement of 8.75% face recognition rate when compared with PCA based face recognition algorithm. The experiment is conducted on ORL database with 2 face images for testing and 8 face images for training for each person. Three performance curves namely CMC, EPC and ROC are considered. The curves show that the proposed algorithm outperforms when compared with PCA algorithm. IndexTerms: Facial features, Histogram of Oriented Gradients, Support Vector Machine, Principle Component Analysis.

MEDICAL IMAGE DE-NOISING USING HYBRID METHODOLOGY WITH WAVELETS AND GUIDED FILTER

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Abstract

Image DE-noising is an important part of image processing and computer vision problems. One of the most powerful and perspective path in this area is image de-noising using discrete wavelet transform (DWT) and guided filters. This paper prefer a new image de-noising method using hybrid methodology which gives better performance than the DWT and guided filters. The DE-

noised image performance can be evaluated in terms of peak signal to noise ratio (PSNR), Mean Squared Error (MSE), Correlation Coefficient. The proposed work will be implemented using MAT LAB R 2015a. Keywords: DWT, Guided filter, MSE, PSNR, Correlation Coefficient

AN EFFICIENT HYBRID PARALLEL PREFIX ADDERS FOR REVERSE CONVERTERS USING QCA TECHNOLOGY

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Abstract

In many building blocks of microprocessors and digital signal processing chips, adders are frequently available in their critical paths. Adders can also be used for subtraction, multiplication and division. One of the important basic arithmetic operations is addition. There are several structures like Ripple Carry Adder (RCA), Carry Look Ahead Adder (CLA) to perform the addition. Parallel prefix adders speed up the addition operation when compared to the other structures. Generally these adders provide less power consumption, but these consume more power when these are used in reverse converters. To reduce this high power consumption, hybrid parallel prefix adders can be used. In this paper, two structures namely, Hybrid Regular Parallel Prefix XOR/OR (HRPX) Adder and Hybrid Modular Parallel Prefix Excess-one (HMPE) Adder are discussed which uses modulo addition. Further these two adders are implemented using the Quantum dot cellular automata (QCA) technology, which reduces the delay. This entire work is done in Xilinx 13.2 tool ISE simulator.

HAND OFF PROBABILITY ANALYSIS OF GSM CELLULAR NETWORKS CIIT WIRELESS COMMUNICATION

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Abstract

Due to the increase in popularity of wireless networks, there is a need of combining various heterogeneous networks to provide global information access to the user. Vertical handoff is an exciting and a latest scheme that intends at combining different network interfaces. The most decisive parameter which plays an important role in certain mobile nodes is battery power. Due to the complexity of vertical handoff algorithms previously developed, the battery power of certain mobile nodes is almost exhausted at the end of execution of algorithm. Moreover, as mobile nodes operate with limited battery power, when battery level falls below a specific level, handing off to a network with low power consumption can provide extended usage time. Thus there is a necessity to develop a vertical handoff algorithm with minimum complexity. In this paper, a new vertical handoff algorithm is developed which aims at taking an optimal handoff decision using two simple steps. Unlike the previous developed algorithms, this algorithm discriminates resource rich and resource poor mobile stations during the execution of the algorithm. Due to the consideration of dynamic new call blocking probability during handoff decision, this algorithm helps in connecting to the optimal network in the vicinity of the mobile station.

Keywords: Handoff, Received Signal Strength, Call Dropping Probability

SHANNON AND FUZZY ENTROPY BASED EVALUTIONARY IMAGE THRESHOLDING FOR IMAGE SEGMENTATION

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Abstract

Image segmentation is a very important and pre-processing step in image analysis. The conventional multilevel thresholding methods are efficient for bi-level thresholding because of its simplicity, robustness, less convergence time and accuracy. However, a mass of computational cost is needed and efficiency is broken down as an exhaustive search is utilized for finding the optimal thresholds, which results in application of evolutionary algorithm and swarm intelligence to obtain the optimal thresholds. The main aim of image segmentation was to segregate the foreground from background. For the first time this paper established a naturally inspired firefly algorithm based multilevel image thresholding for image segmentation by maximizing Shannon entropy or Fuzzy entropy. The proposed algorithm is tested on standard set of images and results are compared with the Shannon entropy or Fuzzy entropy based methods that are optimized by Differential Evolution (DE), Particle Swarm Optimization (PSO) and bat algorithm (BA). It is demonstrated that the proposed method shows better performance in objective function, structural similarity index, peak signal to noise ratio, misclassification error and CPU time than state of art methods.

Keywords

Image segmentation,Imagethresholding,Fuzzyentropy,Shannonentropy,Particle Swarm Optimization,Firefly algorithm

MULTILEVEL IMAGE THRESHOLDING FOR IMAGE SEGMENTATION BY OPTIMIZING FUZZY ENTROPY USING FIREFLY ALGORITHM

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Abstract

Image thresholding is the process of extracting objects in a scene from the background accompanies for the analysis and interpretation of image which is mostly employed for its advanced simplicity, robustness, less convergence time and accuracy. The main intend of image segmentation is to segregate the foreground from background. As ordinary thresholding method of image segmentation is computationally expensive while extending for multilevel image thresholding, the need for optimization techniques is highly recommended. The so called optimization techniques such as Particle swarm optimization and bat algorithm undergo instability when the particle velocity is maximum and stagnation stage attributable to quick exploration. This paper proposes for the first time the multilevel image thresholding for image segmentation by using Fuzzy entropy maximized by naturally inspired firefly algorithm. A firefly based multilevel image thresholding is established by maximizing Fuzzy entropy where the results are proved better in misclassification, standard deviation, Structural Similarity Index and segmented image quality while comparing with differential evolution, Particle swarm optimization and bat algorithm.

Keywords: Image thresholding; Image segmentation; Fuzzy entropy; Bat algorithm; Firefly algorithm

TUNING OF PID CONTROLLER FOR AIRCRAFT ATTITUDE CONTROL SYSTEM BY TCGA METHOD

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Abstract

The optimum design of the proportional-integral derivative (PID) controller plays an important role in achieving a satisfactory response in the aircraft attitude control system. This paper presents the optimal design of the PID controller in the aircraft attitude control system by using the Taguchi Combined Genetic Algorithm (TCGA) method. A multi objective design optimization is introduced to minimize the maximum percentage overshoot, the rise time and settling time. The proportional gain, the integral gain, the derivative gain defines the search space for the optimization problem. The approximate optimum values of the design variables are determined by the Taguchi method using analysis of means. Analysis of variance is used to select the two most influential design variables. MATLAB toolboxes are used in this paper. With this proposed TCGA method, the step response of the aircraft attitude control system can be improved. Keywords: Aircraft Attitude Control System Optimization, Genetic Algorithm (GA), Proportional-Integral-Derivative (PID) Controller, Taguchi Method.

DE-NOISING OF ECG SIGNAL USING HYBRID ADAPTIVE FILTERS

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Abstract

Electrocardiography (ECG), which is the measure of the electrical activity of the heart, the shape of this signal tells much about the condition of the heart of the patient. Naturally the ECG signal gets distorted by different artifacts which must be removed otherwise it will convey an incorrect information regarding the patient's heart condition. Several simple and efficient LMS and Normalized LMS adaptive filters, which are computationally superior having multiplier free weight update loops are used for cancellation of noise in ECG signals. Implementing Hybrid algorithm on ANC provides better performance than adaptive technique used to enhance the ECG signal. In this work, fidelity parameters like signal to noise ratio (SNR), MSE and LSE have to be computed.

Keywords: Adaptive filters, Electrocardiograph,HybridAlgorithm

DENOISING OF EEG SIGNAL USING FRFT BASED BARLETT WINDOW

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Abstract

Electroencephalography (EEG) is an electrophysiological monitoring method to record electrical activity of the brain. EEG recording is highly susceptible to various forms and sources of noise, which present significant difficulties and challenges in analysis and interpretation of EEG data. Noise sources may consist of power line interference, base line noise, random body movements or respiration. A number of strategies are available to deal with noise effectively both at the time of EEG recording as well as during pre-processing of recorded data. In this work we are proposing Frft based barlett window to enhance the quality of EEG signal and the fidelity parameters like signal to noise ratio (SNR), MSE, LSE and sensitivity have to be computed and analyzed in a Matlab environment. Keywords: Electroencephalography, FRFT, Barlett Window.

DESIGN AND SIMULATION OF A NOVEL BIFILAR HELIX ANTENNA COMBINING GPS, GLONASS, IRNSS AND S-BAND COMMUNICATIONS

KaredlaChitambaraRaoa

Abstract

Most Communication Systems require more than one band to solve the antenna problem. Commercial, Amateur Radio and Military Communication are especially likely to need either multiple antennas or a multiband antenna that operates on any number of different bands. For some satellite applications, performance and size both is trade-offs. In Low – Earth Orbit Satellite Communication, size is not a constraint but a good performance is required. A Low-Earth Orbited requires a broad beam width and the gain should be maximum in the directions of maximum path loss. The backfire bifilar helix antenna is the most suitable for this requirement because of this antenna has the advantages such as high efficiency, a convenient size at S-band and extreme simplicity. In this paper, the design of novel backfire bifilar helix antenna is proposed for low earth orbit satellite communications to cover the various bands such as GPS, GLONASS, IRNSS, and S-band Communication. Apart from this, the proposed antenna will be simulated for its characteristics such as VSWR, Gain, Axial Ratio and Radiation patterns.

Keywords: Backfire bifilar Helix Antenna, Global Positioning System, Global Navigational Satellite System, Indian Regional Navigation Satellite System, LEO Satellite Communication, Side lobe level.

STUDY OF CROSSED DIPOLE ANTENNA FOR UHF SATELLITE COMMUNICATION APPLICATIONS AND ITS LIMITATIONS

KaredlaChitambaraRao

Abstract

In the present day communication systems, especially for Submarine applications, a compact antenna is needed to communicate with Satellites. For communicating with Satellites, the compact antenna must have circularpolarization characteristics, positive gain at ± 45o points of the main beam and the main beam position has to bein vertical direction. In this paper, the crossed dipole antenna is proposed, studied its characteristics andlimitations for the ultra-high frequency Satellite Communication applications. Moreover the proposed antennawill be simulated and analyzed for various characteristics such as VSWR, Gain and Axial ratio and Radiationpatterns at the downlink and uplink frequencies of the ultra-high frequency Satellite Communicationapplications.

Index Terms: Dipole Antenna, Crossed Dipole Antenna, UHF Satellite Communication.

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